

PROPOSED PLAN

FOR THE REMEDIAL ACTION AT THE

HI-MILL MANUFACTURING COMPANY SUPERFUND SITE

HIGHLAND, MICHIGAN

JULY 1993



This Proposed Plan provides:

- ▶ A brief history of the site.
- ▶ A summary of the Remedial Investigation and Feasibility Study.
- ▶ A summary of cleanup alternatives considered for the site.
- ▶ Information on how the public can participate in the selection of a cleanup alternative.
- ▶ Details on where the public can find more information on the site.

PUBLIC MEETING

The U.S. EPA is sponsoring a meeting for the residents of Highland and the surrounding communities. The U.S. EPA will present information concerning the Feasibility Study and explain the recommended action plan. Representatives from the U.S. EPA will accept your comments on all the cleanup alternatives and the recommended cleanup plan.

Date: August 17, 1993

Time: 7:30pm

Location:

Highland Township Hall
205 N. John Street
Highland, MI

INTRODUCTION

The U.S. Environmental Protection Agency (U.S. EPA) has identified a preferred alternative to address the contamination at the Hi-Mill Manufacturing Company Superfund Site located at 1704 Highland Road in Highland, Michigan. This document is the **Proposed Plan** for the preferred alternative being considered for this site. The Agency is required to publish this Proposed Plan and make it available for public review and comment by Section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986. The proposed alternative consists of actions to monitor the groundwater **contaminant plume**. For your aid in reading this document, a glossary of terms is attached. All terms included in the glossary will be printed in bold type the first time they are used in this document.

This Proposed Plan describes the alternatives considered to cleanup the site, identifies a preferred alternative, and explains the rationale for that choice. This document also outlines the public's role in assisting the U.S. EPA in making a final remedy choice. The public is encouraged to comment on the proposed alternative as well as the alternatives outlined in this Proposed Plan and the **Feasibility Study (FS) Report**. The U.S. EPA proposes to monitor the contaminated groundwater plume at the Hi-Mill Manufacturing Company site through the use of existing and new

monitoring wells and to impose deed restrictions in order to reduce the potential for exposure to contaminated media.

The alternatives summarized in this Proposed Plan are detailed in the FS Report for the Hi-Mill Manufacturing Company Site, dated July 1993. The FS Report, **Remedial Investigation (RI) Report** and associated **Baseline Risk Assessment (BRA)**, and other documents in the **Administrative Record** should be referenced for a complete description of the site investigations, risks evaluated, and remedial alternatives considered. The RI Report details the findings of the studies conducted to determine the nature and extent of contamination at the site. The BRA Report uses the findings of the RI to assess the present and potential risks to public health and the environment posed by the site's contaminants. The FS builds upon the findings of the RI and BRA, and identifies, screens, and evaluates **remedial action** alternatives for addressing the range of contaminants found to be a risk to persons and the environment.

SITE BACKGROUND

Site Location and Description

The Hi-Mill Manufacturing facility is located at 1704 Highland Road (M-59) in Highland Township, Oakland County, Michigan (Figure 1). The site itself is approximately 4.5 acres in size and is dominated by the manufacturing facility and a paved parking area.

The Hi-Mill Manufacturing site is bounded to the northwest by Highland Road (M-59) and, generally, on all other sides by the Highland State Recreation Area, which is owned and operated by the MDNR. Much of the Recreation Area is considered **wetlands** property. Target Pond, a marshy area of approximately 10-acres, borders the site to the

east, and Waterbury Lake lies about 1,000 feet to the south. The immediate area around Hi-Mill is sparsely populated and rural in nature. The nearest homes are about 2,000 feet east and southeast of the site, along Waterbury Road.

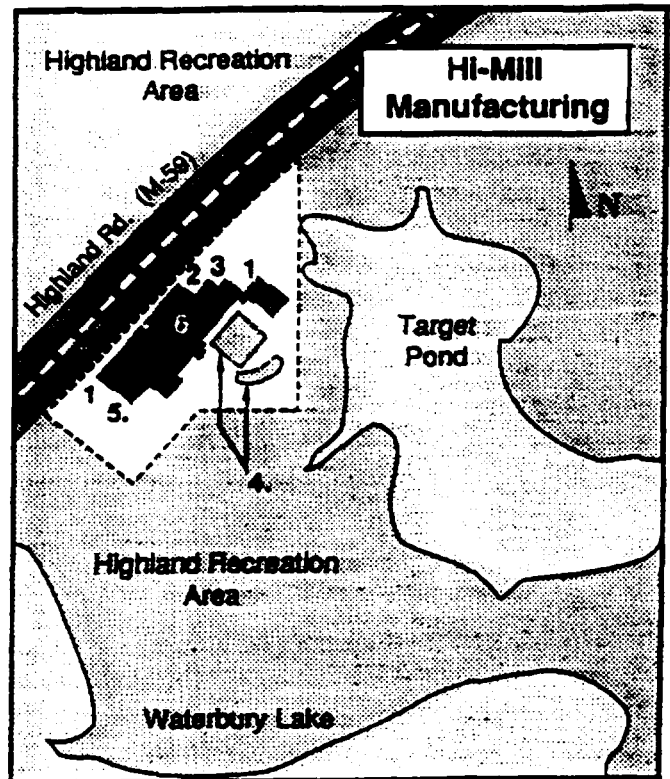


Figure 1

1. Former Wells (2)
2. Former Underground Storage tanks
3. Former Solvent Storage Tank
4. Former Waste Water Lagoons
5. Solvent Storage Tanks
6. Former TCE Degreasing

Site History

The Hi-Mill Manufacturing Company began in 1946 as a partnership between Robert F. Beard and Raymond Unruh. Robert and Richard Beard bought out the business in 1957 and remain the current owners. The Hi-Mill Manufacturing plant makes aluminum, brass, and copper tubing parts and fittings.

Hi-Mill operations consisted of two main processes: (1) anodizing (or "pickling") to brighten metals, and (2) degreasing to clean them. As part of plant operations, metals were bathed in tanks containing acids. Hi-Mill employees periodically emptied these tanks of process wastewater containing residues of acids and such **heavy metals** as copper, aluminum, chromium and zinc. From 1946 until 1979, this wastewater was discharged into a clay-lined lagoon at the Hi-Mill site. The lagoon was about 10 feet deep, 100 feet long, and 100 feet wide.

Prompted by complaints from Hi-Mill employees to the MDNR, the two on-site production wells and Target Pond were sampled in 1972. One well was found to contain elevated levels of metals contamination. Target Pond was also found to be contaminated by metals. In 1976, MDNR resampled the production well and Target Pond. Elevated levels of metals previously detected in the production well were not evident. Elevated levels of metals, however, were detected in Target Pond.

In the fall of 1976, Hi-Mill built a second, smaller lagoon south of the original one. This second lagoon was designed to receive overflow from the original lagoon. On two separate occasions in 1976 and 1977, the big lagoon overflowed into the marsh bordering the site. The overflow came to the attention of the U.S. EPA, and Hi-Mill applied for a special **NPDES** permit to authorize the discharges. The U.S. EPA did not concur with a permit being issued by the state.

MDNR ordered Hi-Mill to stop discharging untreated wastewater into the lagoon, requesting that the company design a wastewater recycling program. The recycling system was implemented in 1981, but the already contaminated lagoons remained a problem. Attempting to cleanup the big lagoon between 1981 and 1983, Hi-Mill evaporated liquid in the lagoon using a spray technique. This technique involved spraying liquids from the wastewater lagoons into the air. Spray nozzles were located on top of the production facility and along portions of the 8-foot high fence that surrounds the rear of the property. MDNR ordered Hi-Mill to stop this practice in 1983.

In November of 1983, under MDNR supervision, Hi-Mill cleaned up the big lagoon by removing 142 cubic yards of contaminated soil, 34,400 gallons of contaminated sludge, and 63,300 gallons of contaminated wastewater. The lagoon was then backfilled.

Following this action, samples taken by the MDNR showed that removal of the water and sludge significantly reduced the levels of metals in on-site soils. However, other samples showed elevated levels of toxic metals in sediment from Target Pond and Waterbury Lake.

Between 1978 and 1980 (exact date unknown), activities related to the construction of an addition on the northeast side of the building resulted in damage to the solvent delivery line between a former 250 gallon aboveground storage tank and degreaser. As a result of the damage, up to 250 gallons of solvent leaked from the damaged underground product line. The damaged underground product line has since been replaced with an aboveground product line.

The two on-site production wells were resampled in 1988. Analytical results indicated that the drinking water at Hi-Mill was contaminated with **trichloroethylene**

(TCE) and 1,2-dichloroethylene (DCE). A new well was installed in 1989 to provide Hi-Mill employees with safe drinking water. Before the new well was hooked up, bottled water was offered at the facility. The two contaminated wells were eventually abandoned.

On June 24, 1988, the Hi-Mill site was proposed to be placed on U.S. EPA's National Priorities List (NPL), a roster of hazardous waste sites eligible for investigation and cleanup under the Superfund Program. On October 5, 1988, a Consent Order was signed between Hi-Mill and the U.S. EPA authorizing Hi-Mill to conduct the RI/FS.

Findings of the Remedial Investigation

Between 1989 and 1992, the RI/FS was conducted by Hi-Mill under the guidance and oversight of the U.S. EPA and MDNR. The RI/FS was conducted to identify the types, quantities, and locations of contaminants at the site and to develop ways of addressing the contamination problems. The key findings of the RI are as follows:

Hydrogeologic Investigation

Results from groundwater sampling show that the shallow groundwater unit below the Hi-Mill property and M-59 has been contaminated by on-site sources. Several **volatile organic compounds (VOCs)** were detected in the shallow groundwater unit. The VOCs of primary concern are trichloroethylene (TCE), 1,2 dichloroethylene (DCE), and **vinyl chloride**; maximum concentrations detected were 55ppm, 3.5ppm and 0.4ppm, respectively.

The primary source of contamination is believed to be the past accidental release of approximately 250 gallons of chlorinated solvents from the underground piping associated with the solvent storage tank located

on the north side of the facility.

Site Soils Investigation

Results from the surface and subsurface soil sampling show that on-site soil near the facility has been contaminated with organic and **inorganic** chemicals. The primary sources of the organic contamination is believed to be the accidental release of solvents from the delivery line and the former and current solvent storage tanks located on the north and southwest sides of the facility. The primary sources of the inorganics contamination is believed to include the wastewater lagoons located at the rear of the facility and the abandoned wastewater recycling system.

Marsh Surface Waters and Sediment Investigation

Results of the sediment investigation show that although the sediments in Target Pond show concentrations of inorganics apparently from the Hi-Mill facility, there does not appear to be any adverse environmental effects associated with the inorganics concentrations. The surface water in Target Pond and Waterbury Lake and the sediment in Waterbury Lake does not appear to be severely impacted with inorganics.

The ecological inventory included a survey of the plants and wildlife and an aquatic survey of Target Pond. The survey results do not indicate any adverse impacts related to Hi-Mill activities.

Summary of Site Risk

During the RI, the U.S. EPA conducted a risk assessment which analyzed the health and environmental problems that could result if site related contamination was not cleaned up. That analysis, called a Baseline Risk Assessment (BRA), compared the contamination levels at the site with Federal

and State standards. It considered pathways by which people and wildlife could be exposed to site-related contaminants and whether such exposure could increase the incidence of carcinogenic (cancer-related) and noncarcinogenic (non-cancer related) diseases beyond the levels that normally occur in the study area.

The assessment assumed that people could come into contact with site related contaminants by eating or drinking them (ingestion), breathing them (inhalation), or absorbing them through the skin (dermal contact). The contaminants of concern are the VOCs (TCE, DCE, vinyl chloride) found in the shallow groundwater unit both on-site and off-site. There are no unacceptable risks from inorganic chemicals associated with site activities.

The BRA evaluated the potential health threats to current Hi-Mill workers exposed to site soil; and future residents exposed to site soil, groundwater, and Target Pond. The assessment concluded that current Hi-Mill workers are not at an unacceptable carcinogenic risk due to the soil at the site. Current worker exposure to site groundwater was not evaluated because there is no indication that workers are exposed to this groundwater (the shallow groundwater unit below the Hi-Mill property and M-59 is not used for drinking water by Hi-Mill or for residential wells). If the site is developed for residential use in the future, adult and child residents on-site will not be at an unacceptable risk due to site soil or Target Pond. However, adult and child residents on-site who regularly use water from the shallow groundwater unit may be at a carcinogenic risk by ingesting, inhaling, or having skin contact with the groundwater.

The excess lifetime cancer risks should be regarded as conservative estimates on the potential cancer risk rather than actual representations of true cancer risks.

Listed below are the pathways of greatest concern showing risks in excess of U.S. EPA's acceptable risk range and the estimated upper limits of additional cancer cases that could occur as a result of repeated exposures in the future to site related contaminants (these risks were estimated by assuming a person would be exposed to the contaminants of concern every day over a period of a lifetime):

► Future on-site residents inhaling, ingesting, or having direct contact with the water from the shallow groundwater unit:

Adults: 4 additional cases per 1,000 people exposed.

Children: 3 additional cases per 1,000 people exposed.

Some site-related contaminants could also pose various noncarcinogenic health problems. The measure of noncarcinogenic risk is termed a hazard index (H.I.). When the H.I. exceeds 1, there is a potential for adverse health effects. Of the exposure pathways evaluated the H.I. is greater than 1 for future on-site adult residents ingesting or having direct contact with water from the shallow groundwater unit (H.I. = 37) and future on-site child residents ingesting water from the shallow groundwater unit (H.I. = 20).

In addition to performing an assessment of risks to human health, an assessment of risks to the environment was also performed. The results of the assessment show that there does not appear to be any adverse impacts to the surface water and sediments of Target Pond or Waterbury Lake as a result of site activities. There is also no indication of adverse impacts to wetland vegetation or terrestrial animals or plants.

In summary, the risk assessment shows there is no health risk to current workers from exposure to site soils or groundwater and no health risk to future residents from exposure to

site soil. Also, there do not appear to be any risks to the environment. The risks apply only to future residents on-site, if any, who ingest, inhale, or have direct skin contact with water from the shallow groundwater unit at the site.

SCOPE OF RESPONSE ACTION

The alternatives considered in this Proposed Plan ranged from "No Action" with monitoring of contaminated groundwater and institutional controls to cleanup of contaminated soil and shallow groundwater.

SUMMARY OF ALTERNATIVES

Preliminary Screening

A preliminary screening of remedial alternatives was conducted as part of the Feasibility Study. The preliminary screening assembled general response actions which satisfy the remedial objectives of each area of concern. The following general response actions were included in this preliminary screening process:

- Deed Restrictions
- Groundwater Monitoring
- Soil Vapor Extraction
- Vacuum Enhanced Recovery
- Air Sparging/In-Situ Air Stripping

Factors of technical impracticability, effectiveness, and relative cost were used to screen the preliminary remedial technologies and their associated process options. The resulting viable remedial action alternatives were subjected to a detailed screening based on the nine criteria outlined in this Proposed Plan.

The alternatives analyzed at the Hi-Mill Manufacturing site are presented below. The Feasibility Study analyzed three alternatives: No Action; Groundwater Monitoring and

Institutional Controls; and Active Treatment (On-site and Off-site), however, the U.S. EPA has chosen to combine the No Action and Groundwater Monitoring and Institutional Controls alternatives. This is due to the fact that the U.S. EPA considers Groundwater Monitoring and Institutional Controls a form of "No Action". The active treatment alternatives are designed to remediate the soil and shallow groundwater unit on-site and/or off-site. All listed costs are estimates. Annual **operation & maintenance (O&M)** costs are the yearly costs associated with running the treatment system.

Remedial Alternatives

Alternative 1: No Action with Groundwater Monitoring and Institutional Controls **Preferred Alternative**

Capital Costs:	\$ 36,000
Annual O&M Costs:	
First 3 years:	\$ 88,000
Next 27 years:	\$ 23,000
Total Present Worth Costs:	\$565,000

The statute requires that the "No Action" alternative be evaluated at every site to establish a baseline for comparison. Under this alternative, no action will be taken to prevent exposure to the shallow site soils or to prevent contaminants from leaching from the soil at the site. In addition, no action will be taken to prevent migration of the contaminated groundwater further off-site or into deeper aquifers. This alternative does, however, involve monitoring of the shallow groundwater unit and intermediate aquifer at the site and implementation of deed restrictions.

Groundwater monitoring would be utilized to monitor the migration of impacted groundwater in the shallow groundwater unit. The monitoring network would also be designed to detect impacts to deeper aquifers and nearby surface water bodies if it should

occur. Data would be collected from the monitoring wells quarterly for the first three years after which consideration will be given to reducing sampling frequency to annually. If at any time U.S. EPA determines that contamination has adversely impacted nearby surface water bodies and/or the intermediate aquifer a treatment alternative will be evaluated.

Deed restrictions would be used as a means to prevent the Hi-Mill Manufacturing site from being sold for the purpose of residential development. Such restrictions would eliminate the need to consider exposure risks to future residents.

Alternative 2A: Active Treatment (On-Site)

Capital Costs:	\$ 452,000
Annual O&M Costs	
First 3 Years:	\$ 134,000
Next 27 years:	\$ 73,000
Total Present Worth:	\$1,738,000

This alternative involves the use of a vacuum enhanced recovery system designed to remediate on-site soils and shallow groundwater that have been impacted by volatile organic compounds.

Vacuum enhanced recovery wells would be placed around the Hi-Mill Manufacturing building in a pattern designed to capture shallow groundwater and air from suspected source areas and also to prevent migration of on-site groundwater that exceeds the cleanup levels. Once contaminated groundwater is captured, it would flow to a diffused aeration unit where primary treatment of VOCs would occur. Discharge from the aeration unit would be pumped to an activated carbon bed for final treatment. Treated water would be discharged to a selected discharge point. Recovered air would be treated in a activated carbon unit and discharged to the atmosphere.

The complex hydrogeology of the shallow

groundwater unit may make successful treatment of the groundwater unit difficult. Pilot tests will need to be conducted in order to determine the effectiveness of this technology.

In addition to the vacuum enhanced recovery system, groundwater monitoring would be used to provide data on the effectiveness and progress of remedial efforts.

Alternative 2B: Active Treatment (On-Site & Off-site)

Capital Costs:	\$564,000
Annual O&M Costs	
First 3 years:	\$136,000
Next 27 years:	\$ 73,000
Total Present Worth:	\$1,857,000

This alternatives involves the same components as Alternative 2A with the addition of an off-site groundwater recovery component.

In order to capture off-site shallow groundwater, a single conventional groundwater well would be placed off-site (in the median of M-59). Captured shallow groundwater and air would undergo the same treatment process as described in Alternative 2A.

U.S. EPA PREFERRED CLEANUP PLAN

The U.S. EPA has identified Alternative 1 as the preferred alternative for addressing the contaminated soils and groundwater at the Hi-Mill Manufacturing site. The U.S. EPA may modify the Proposed Plan or select another alternative based on information received during the public meeting or public comment period. The public is encouraged to review and comment on all the alternatives identified in this Proposed Plan. The Feasibility Study contains more information on all the

alternatives.

The main components of the preferred alternative are:

- ▶ Monitoring of contaminated groundwater in the shallow groundwater unit.
- ▶ Monitoring of the intermediate aquifer and nearby surface water bodies.
- ▶ Implementation of deed restrictions.

Monitoring of the shallow groundwater unit will be implemented in order to monitor the migration of contamination. The monitoring system will also be designed to detect adverse impacts to the intermediate aquifer and nearby surface water bodies, if they occur. If the U.S. EPA determines that there are unacceptable impacts, a treatment system will be evaluated.

EVALUATION OF ALTERNATIVES

The following comparison of alternatives considers the options for soil and groundwater.

1. Overall Protection of Human Health and the Environment

Alternative 1 would promote the continued protection of human health and the environment by controlling land and groundwater use. As a result of the monitoring activities, appropriate additional remedial action could be taken, if necessary, to provide for the continued protection of human health and the environment in the event of a significant plume expansion.

Alternatives 2A and 2B would provide long-term protection of human health and the environment by reducing the concentration of the constituents of concern in the groundwater and soils.

2. Compliance with Applicable and Relevant and Appropriate Requirements (ARARs)

Compliance with chemical-specific ARARs would be anticipated over the long term for Alternatives 2A and 2B. These alternatives would also comply with their respective action-specific ARARs. Assuming that regulatory agencies would approve the necessary site activities for the alternatives, all the alternatives would comply with the location-specific ARARs. All alternatives will also be implemented to comply with their respective action-specific ARARs.

3. Long-term Effectiveness and Permanence

The institutional controls provided for in Alternative 1 would provide long-term effectiveness and permanence in promoting the continued protection of human health and the environment while monitoring the progress of the shallow groundwater plume. Monitoring would also be a reliable means for detecting future impacts, allowing for future implementation of remedial controls if necessary. Deed restrictions would prevent direct contact with, or ingestion of, impacted groundwater in the future.

Alternatives 2A and 2B will provide source control by controlling the flow of groundwater from the site source areas. The additional benefits of accelerated aquifer restoration may be limited due to complex hydrogeologic conditions.

4. Reduction of Toxicity, Mobility, or Volume Through Treatment

Alternative 1 does not incorporate active treatment and therefore would not reduce the toxicity, mobility or volume of contamination through treatment.

Alternatives 2A and 2B do provide for the reduction of toxicity, mobility, and volume of

Evaluating the Cleanup Alternatives

The following nine criteria are used to evaluate cleanup alternatives. This evaluation provides the basis for selection of the final cleanup plan at Superfund sites.

1. Overall Protection of Human Health and the Environment addresses whether a remedy provides adequate protection of human health and the environment and describes how risks posed through each exposure pathway are eliminated, reduced or controlled through treatment, engineering controls or institutional controls.

2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) addresses how the proposed alternatives complies with pertinent Federal and State environmental laws and/or justifies a waiver.

3. Long-term Effectiveness and Permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time.

4. Reduction of Toxicity, Mobility or Volume Through Treatment evaluates an alternative's use of treatment to reduce the harmful nature of contaminants, the environment, and the amount of contamination present.

5. Short-term Effectiveness addresses the ability of alternatives to manage risks during construction and implementation phases, and reduce immediate risks posed by the hazardous materials present.

6. Implementability is the technical administrative feasibility of a remedy, including the availability of goods and services needed to implement a particular option.

7. Cost includes estimated capital and operation and maintenance costs.

8. Support Agency Acceptance indicates whether, based on its review of the Feasibility Study and Proposed Plan, the support agency concurs, opposes, or has no comments on the preferred alternative.

9. Community Acceptance summarizes the public's general response to the alternatives described in this Proposed Plan and in the Feasibility Study. Community acceptance will be assessed at the end of the public comment period.

the constituents of concern through the active treatment of impacted soils and groundwater.

5. Short-term Effectiveness

Alternative 1 would provide a relatively high degree of short-term effectiveness because no disturbance of the impacted soils or groundwater would occur during

implementation of deed restrictions, and the limited contact with potentially impacted soils and groundwater during the installation of the additional groundwater monitoring wells.

Alternatives 2A and 2B would provide a relatively lower level of short-term effectiveness because of the additional potential exposure risks that could occur during

construction.

6. Implementability

The institutional controls provided for Alternatives 1, 2A and 2B could all be readily implemented. The additional components necessary for the implementation of Alternative 2A could also be constructed rather easily. Alternative 2B would be the most difficult to implement primarily because of the technical and administrative difficulties due to the necessity to pipe extracted off-site groundwater to an on-site treatment system and the presence of the highway (M-59).

7. Cost

The costs of the individual alternatives are detailed below.

	<u>Capital Cost</u>	<u>Annual O&M</u>	<u>Present Worth</u>
Alt 1	\$ 36,000	\$ 88,000 (3yrs) \$ 23,000 (27yrs)	\$565,000
Alt 2A	\$452,000	\$134,000 (3yrs) \$ 73,000 (27yrs)	\$1,738,000
Alt 2B	\$564,000	\$136,000 (3yrs) \$ 73,000 (27yrs)	\$1,857,000

All costs are estimates. The costs associated with Alternatives 2A and 2B may change based on the results of pilot tests necessary to assess their effectiveness.

8. Support Agency Acceptance

This criterion will be fully addressed subsequent to the public comment period and review of the Proposed Plan.

9. Community Acceptance

This criterion will be fully addressed subsequent to the public comment period.

SUMMARY OF STATUTORY FINDINGS

Based on information available at this time, the U.S. EPA believes that the preferred alternative, Alternative 1, provides the best balance among the evaluation criteria. The results of the RI/FS show that although there is contamination in on-site and off-site soils and the shallow groundwater unit, there are no current risks to human health or the environment due to this contamination. The shallow groundwater unit has no current beneficial uses and, due to its low water yield, could not reasonably be utilized as a drinking water source in the future. The potential for future risks to human health and the environment are unlikely and would be further reduced through implementation of deed restrictions prohibiting residential development, the continued presence of the highway (M-59) and monitoring of the groundwater to detect significant plume expansion. The preferred alternative protects human health and the environment and is cost-effective.

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

Public Comment Period

To encourage public participation in the remedy selection process, the U.S. EPA has set a public comment period from August 3, 1993 to September 1, 1993. This 30-day public comment period is required by Section 300.430 (f) (3) (c) of the **National Oil and Hazardous Substance Contingency Plan (NCP)**. Interested parties are requested to comment, in writing, on the alternatives presented in the Proposed Plan as well as any others discussed in the Feasibility Study. All documents and guidance referenced in this Proposed Plan can be found in the Administrative Record repositories listed below. The final remedy for the Hi-Mill site will not be selected until the public comment period for the Proposed Plan and Feasibility Study are completed, and all comments received are considered. The Agency may modify the preferred alternative, or select any other alternative from the Proposed Plan and Feasibility Study based on comments received during the public comment period.

Written comments on the Proposed Plan and Feasibility Study will be accepted throughout the public comment period. A

Responsiveness Summary in the **Record of Decision (ROD)** will address all public comments received. The Responsiveness Summary will summarize significant comments, criticisms, or new information received and will provide U.S. EPA's responses to these comments. The Record of Decision will document the remedy selected and will be made available for review in the Administrative Record.

Written comments should be sent to:

Mr. Lawrence Leveque (PS-19J)
Office of Public Affairs
U.S. Environmental Protection Agency

Region V

77 W. Jackson Boulevard (HSRW-6J)
Chicago, Illinois 60604
(312) 886-4359

Written comments must be postmarked no later than September 1, 1993, in order to be considered in the remedy selection and addressed in the Responsiveness Summary.

Public Meeting

A public meeting to discuss the Proposed Plan and the Feasibility Study has been scheduled for August 17, 1993, at the Highland Township Hall. The public is invited to provide oral comments on the FS and Proposed Plan at the meeting. A written transcript of oral comments provided at the meeting will be taken. Written comments will also be accepted at the meeting.

For More Information

The Administrative Record, which includes the Proposed Plan, Remedial Investigation Report, Feasibility Study, Baseline Risk Assessment and other pertinent documents, has been placed in Information Repositories for public review and copying at the following locations:

Highland Township Library
205 West Livingston
P.O. Box 277
Highland, MI 48357
(313) 887-2218
Contact: Jude Halloran, Library Director

If you have any questions, you may contact Ms. Karla L. Johnson, U.S. EPA or Ms. Debbie Larsen, MDNR at the addresses and phone numbers listed below.

Ms. Karla L. Johnson
Remedial Project Manager
U.S. Environmental Protection Agency
Region V
77 W. Jackson Boulevard (HSRW-6J)
Chicago, Illinois 60604
(312) 886-5993

Ms. Debbie Larsen
Hi-Mill Project Manager
Environmental Response Division
Michigan Department of Natural Resources
P.O. Box 30028
Lansing, Michigan 48909
(517) 373-4825

Hi-Mill Manufacturing Mailing List

If you did not receive this Proposed Plan in the mail, you are not on the Hi-Mill Manufacturing mailing list. In order to be placed on the list please contact Mr. Lawrence Leveque at the address and phone number listed on the previous page.

GLOSSARY

Administrative Record - An official record comprised of all documents pertinent to the decision making process of selecting the remedial action to be taken at a site. The Administrative Record is available for public review at the Information Repository.

Baseline Risk Assessment (BRA) - The use of factual base to define health effects of exposure of individuals or populations to hazardous materials and situations.

CERCLA/SARA - Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), also known as Superfund. Amended in 1986 by the Superfund Amendments and Reauthorization Act (SARA). A law enacted by Congress which established a program to investigate and cleanup actual and potential releases of hazardous substances at sites throughout the United States.

Contaminant Plume - A column of contamination with measurable horizontal and vertical dimensions that is suspended in and often moves with groundwater.

1,2-Dichloroethylene - A volatile organic compound used as a solvent. This compound may cause blood disorders.

Feasibility Study (FS) - A study which evaluates different methods to remediate, clean up, or otherwise resolve the contamination problems found during the Remedial Investigation (RI).

Heavy Metals - Metals, including arsenic, lead, chromium, cadmium, mercury, and zinc that can be toxic at relatively low

concentrations.

Inorganics - Chemical elements or compounds that do not contain carbon. Examples include lead, chromium, copper, and aluminum.

National Oil and Hazardous Substance Contingency Plan (NCP) - Provides the organizational structure and establishes procedures for responding to discharges and releases of hazardous substances, pollutants, and contaminants.

NPDES - National Pollutant Discharge Elimination System Permit. Establishes levels of contaminants that may be present in wastewaters discharged from industrial facilities.

Operation & Maintenance (O&M) - Operation and maintenance costs are post-construction costs necessary to maintain the future effectiveness of a remedial action. These costs include charges for maintenance materials and labor, operating labor, energy, disposal of residues, insurance, taxes, periodic site reviews, and licensing.

Proposed Plan - A document that describes the site; summarizes key findings of the Remedial Investigation and Feasibility; provides a brief analysis of remedial alternatives under consideration; identifies the alternative preferred by the U.S. EPA and MDNR; and provides the public with information on how they can participate in the remedy selection process.

Record of Decision (ROD) - A document which supports the selection of a remedial

action through discussion of facts, analysis of facts, and site-specific policy determinations.

Remedial Action - An action that is implemented to address a direct threat to human health or the environment.

Remedial Investigation (RI) - A study which examines the nature and extent of contamination problems at the site.

Responsiveness Summary - The document in which the Agencies address all comments received during the public comment period.

Trichloroethylene (TCE) - An organic compound used primarily as a solvent for oils, waxes, and fats. Short-term exposure to high concentrations of TCE can irritate the eyes and mucous membranes and can produce narcotic effects. Long-term exposure to this compound may cause cancer.

Vinyl Chloride - A volatile organic compound used in industrial processes to make plastics. It is extremely toxic and is a known carcinogen.

Volatile Organic Compounds (VOCs) - A group of organic compounds that tend to evaporate when exposed to air. Since groundwater does not usually come in contact with air, VOCs in groundwater are not easily released. If groundwater containing VOCs is used for drinking water, VOCs may pose a potential threat to human health. Some VOCs are believed to cause cancer in humans.

Wetlands - Areas of land (such as marshes or swamps) containing substantial soil moisture.